

ABSTRACT OF THE DISCLOSURE

A micromirror array assembly (10, 20) for use in optical modules (5, 17) in a wireless network system is disclosed. The micromirror array assembly (10, 20) includes a plurality of mirrors (29) monolithically formed with a frame (43), attached by way of hinges (55) and gimbal portions (45). Permanent magnets (53) are attached to each of the gimbal portions (45) associated with the mirrors (29). The resulting frame (43) is then mounted to a coil driver assembly (50) so that coil drivers (34) can control the rotation of each mirror (29), under separate control from control circuitry (14, 24). The micromirror array assembly (10, 20) is thus able to support higher signal energy at larger spot sizes, and also enables multiplexed transmission and receipt, as well as sampling of the received beam for quality sensing. A method of manufacturing the micromirror array assembly (10, 20) is also disclosed, in which a support wafer (60) is temporarily bonded to the mirror wafer (70) while the permanent magnets (53) are attached.